

Serial No. 09/661,153
Amdt. dated September 30, 2003
Reply to Office Action of July 2, 2003

Docket No. UIOWA-8P4D1

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-7. (Cancelled)

8. (Previously Presented) A drug infusion assembly for microinfusing a drug into the hypothalamus of a patient's brain, comprising:

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a plurality of microinfusion catheters disposed non-coaxially side-by-side with respect to one another and configured to be inserted into the hypothalamus of a patient's brain, wherein at least one microinfusion catheter of said plurality of microinfusion catheters comprises a plurality of drug delivery ports arranged to deliver a drug to a separate site within the hypothalamus;

a drug delivery manifold, wherein each of said plurality of microinfusion catheters is functionally coupled to said drug delivery manifold;

a drug supply line functionally coupled to said drug delivery manifold; and

a drug reservoir/pump for retaining and pumping a drug, said drug reservoir/pump functionally coupled to said drug supply line.

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9. (Previously Presented) The drug infusion assembly as claimed in claim 40, wherein said macrocatheter includes a magnetic unit, said magnetic unit being configured such that application of an external magnetic field allows for stereotactic placement of said macrocatheter to a specific location within the patient's brain.

10. (Previously Presented) The drug infusion assembly as claimed in claim 40, wherein said macrocatheter includes a magnet located at a distal end of said macrocatheter.

11. (Cancelled)

12. (Original) The drug infusion assembly as claimed in claim 8, wherein said drug reservoir/pump is capable of pumping a drug at a variable rate.

13. (Original) The drug infusion assembly as claimed in claim 8, wherein said drug reservoir/pump is capable of pumping a drug at a variable rate, and the variable rate can be controlled percutaneously by a radio control unit.

14. (Original) The drug infusion assembly as claimed in claim 8, wherein said drug reservoir/pump includes a recharge valve for recharging said drug reservoir/pump with a drug.

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15. (Original) The drug infusion assembly as claimed in claim 14, wherein said recharge valve is accessible percutaneously.

16-39. (Cancelled)

40. (Previously Presented) The drug infusion assembly as claimed in claim 8, further comprising a macrocatheter for housing the plurality of microinfusion catheters.

41. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein the drug reservoir/pump contains an appetite controlling drug for treating obesity.

42. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein at least one microinfusion catheter of the plurality of microinfusion catheters is configured such that each of the plurality of drug delivery ports can be independently controlled.

43. (Previously Presented) The drug infusion assembly as claimed in claim 8, further comprising monitoring electrodes which sense electrical activity within the patient's hypothalamus.

44. (Previously Presented) The drug infusion assembly as claimed in claim 43, further comprising a controller functionally coupled to at least one microinfusion catheter of the plurality of microinfusion catheters wherein the controller independently controls delivery of a drug from each of the plurality of drug delivery ports of the at least one microinfusion catheter using information gathered from the monitoring electrodes.

45-51. (Cancelled)

52. (Previously Presented) The drug infusion assembly of claim 8, wherein the plurality of drug delivery ports is disposed along a length of the at least one microinfusion catheter.

53. (Currently Amended) A drug infusion device, comprising:
a plurality of microinfusion catheters disposed non-coaxially side-by-side with respect to one another and configured to receive a drug and infuse the drug into the hypothalamus of a patient;
a pump configured to controllably supply a drug to the plurality of microinfusion catheters; and

a manifold configured to convey the drug from the pump to the plurality of microinfusion catheters.

54-55. (Cancelled)

56. (Currently Amended) The drug infusion assembly of claim 53 ~~54~~, wherein the pump can be controlled percutaneously.

57. (Currently Amended) The drug infusion assembly of claim 53 ~~54~~, wherein at least one microinfusion catheter comprises multiple individually controllable drug delivery ports disposed along a length of the at least one microinfusion catheter.

58. (Currently Amended) The drug infusion assembly of claim 53 ~~54~~, further comprising a macrocatheter housing the plurality of microinfusion catheters.

59. (Previously Presented) The drug infusion assembly of claim 58, wherein the macrocatheter comprises a magnet.

60. (Currently Amended) The drug infusion assembly of claim 53 ~~54~~, further comprising at least one electrode configured to sense an electrical activity of the hypothalamus.

61. (Previously Presented) The drug infusion assembly of claim 60, wherein the pump is configured to communicate with the at least one electrode and supply the drug to at least one of the plurality of microinfusion catheters in accordance with the electrical activity of the hypothalamus.

62. (Currently Amended) The drug infusion assembly of claim 53 ~~54~~, wherein the drug is configured to affect the weight of the patient.

63. (Previously Presented) A drug infusion device, comprising a plurality of microinfusion catheters disposed non-coaxially side-by-side with respect to one another and configured to receive a drug and infuse the drug into a tissue of a patient, wherein at least one microinfusion catheter comprises a plurality of individually controllable drug delivery ports disposed along a length of the at least one microinfusion catheter.

64. (Previously Presented) The drug infusion device of claim 63, wherein the tissue comprises the hypothalamus.

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65. (Previously Presented) The drug infusion device of claim 63, further comprising a macrocatheter configured to house the plurality of microinfusion catheters.

66. (Previously Presented) The drug infusion device of claim 65, wherein at least one microcatheter of the plurality of microcatheters comprises a plurality of individually controllable drug delivery ports disposed along a length of the respective microcatheter.

67. (Previously Presented) The drug infusion assembly of claim 65, wherein the macrocatheter comprises a magnet configured to cooperate with an external magnetic field to guide the macrocatheter.

68. (Previously Presented) A drug infusion assembly comprising the drug infusion device of claim 63, and further comprising a pump configured to deliver the drug to at least one microinfusion catheter of the plurality of microinfusion catheters.

69. (Previously Presented) The drug infusion assembly of claim 68, wherein the pump is configured to be controlled percutaneously.

70. (Previously Presented) The drug infusion assembly of claim 68, further comprising a manifold configured to convey the drug from the pump to the at least one microinfusion catheter.

71. (Previously Presented) A drug infusion device, comprising:
a macrocatheter; and
a plurality of microinfusion catheters protrusibly disposed non-coaxially side-by-side within the macrocatheter, wherein at least one microinfusion catheter comprises a plurality of drug delivery ports and is configured to receive a drug and infuse the drug into a tissue of a patient.

72. (Previously Presented) The drug infusion device of claim 71, wherein the plurality of drug delivery ports comprises individually controllable drug delivery ports.

73. (Previously Presented) The drug infusion device of claim 71, wherein the plurality of drug delivery ports are disposed along a length of the at least one microinfusion catheter.

74. (Previously Presented) The drug infusion device of claim 71, wherein the macrocatheter comprises a magnet configured to aid in the stereotactic placement of the macrocatheter in the tissue.

75. (Previously Presented) The drug infusion device of claim 74, wherein the plurality of drug delivery ports comprises individually controllable drug delivery ports.

76. (Previously Presented) The drug infusion assembly of claim 74, wherein the magnet comprises a magnetic collar disposed on the macrocatheter proximate to an end of the macrocatheter.

77. (Previously Presented) A drug infusion assembly comprising the drug infusion device of claim 71, and further comprising at least one pump configured to controllably supply the drug to the at least one microinfusion catheter.

78. (Previously Presented) The drug infusion assembly of claim 77, wherein the at least one pump is configured to be controlled percutaneously.

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79. (Previously Presented) The drug infusion assembly of claim 77, further comprising a manifold configured to convey the drug from the at least one pump to the at least one microinfusion catheter.

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